

**A GYNANDROMORPH OF *BOMBUS FLAVIFRONS*  
CRESSON (HYMENOPTERA: APIDAE)**By H. E. MILLIRON<sup>1</sup>

In a recently published paper (Bul. Brooklyn Ent. Soc. 55: 109–113, 1960), the writer called attention to the rare occurrence of gynandromorphs in the large group of social insects known as bumblebees, and at that time described the first such specimen representing a species of the closely related inquiline bumblebees, making a total of only eight then recorded for the two bee groups. A short time ago, it was his good fortune to detect another gynandromorphic specimen in a small lot of bees submitted by Professor Verne Grant, Rancho Santa Ana Botanic Garden, Claremont, California. The interesting specimen described in part beyond was captured by Professor Grant, on *Gilia pinnatifida* Nutt. at Ward, Boulder County, Colorado, July 13, 1961. This ninth gynandromorphic specimen in this particular bee series best fits the category that is designated as the frontal type. In order to avoid confusion, the use of the specific name *flavifrons*, in its usual combination, is preferable in this case and until the appearance of my revisional work on these bees.

The following descriptive remarks include the principal combined features of this specimen, as compared with those of normal individuals: *Head*—Represents the worker (*i.e.*, the usual non-reproductive female) in all details of structure, including that of the appendages. *Thorax*—This region proper, and the wings are as in an ordinary worker. *Legs*—The front pair, and the left middle leg are also like those of a worker. The right middle leg, to and including the femur, is worker but the remainder is neither typical of worker nor male; the tibia is rather more strongly attenuated at both ends and is a little shorter than that of a normal worker, and its pubescence, in character and color, is more inclined to be like that of the male; the corresponding basitarsus, including its pubescence, is also suggestive of the male except that it is comparatively a little shorter and wider with stronger longitudinal concavity on the outer surface than is characteristic of this segment in that sex, and the remainder of the tarsus, including the claws, is male-like except that each segment is a trifle shorter. The left hind leg approaches that of a normal worker, but differs in several respects; the outer surface of the somewhat longer tibia is slightly narrower, more irregularly convex and less smooth along its median longi-

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tudinal area, and possesses some additional erect hairs inside the marginal fringes which are, however, like those of the worker; the corresponding basitarsus, which has a straight posterior margin, is comparatively longer and thicker, has a less strongly incised distal end, a more weakly concave outer surface, and a smaller auricle, and the remainder of the tarsus has thicker segments than in the normal worker, but the relative lengths of these latter still are the same as those for that caste. The right hind leg has the femur and segments beyond the basitarsus like the counterparts on the opposite side; its tibia does have the general outline and type of dorsal (posterior) fringe of a worker, but the outer surface and ventral (anterior) fringe are similar to those in the male; the basitarsus is noticeably shorter and narrower than its left counterpart, but tends to be more worker than male. *Abdomen*—Except for the length of pubescence, this region is structurally male throughout, including normal, typical genitalia.

The specimen measures 9.0 mm. in length, which is a little below the average for the worker, and considerably under the average for the male. The color of pubescence on the head and thorax is the same as that of typical workers to which the above specific name is currently applied, and the color of the abdominal pubescence agrees with that often found on both sexes. The physical appearance, as it concerns length, texture and density, of the body pubescence throughout, is, however, more characteristic of the vestiture of a worker rather than that of a male. Specimen deposited in the Canadian National Collection, Ottawa.

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